

Egypt University of Informatics

Computer and Information Systems

Data Analysis Course

The Analysis of daily budget effect on CGPA of university students

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# Introduction

There are many factors that can affect a student's CGPA, it's not limited to academic performance, study habits, time management skills only but also activities, personal health and finances could affect it. One of these factors is the daily budget.

# Research Question

What is the effect of daily budget on the cumulative GPA?

# Hypothesis

It was noticed that how much a student spends affects their CGPA

# Population of Interest:

All university students (especially EUI)

# Sampling Method:

Convenience sampling: the population is wide and unknown, so it is difficult to use a probability-based sampling method, so convenience sampling is used as it is possible to implement

# Bias Identification:

Bias by place: The sample is taken from a single university.

Bias by major: The sample was taken from Cs students and engineering students

Bias by year: only year2 and a little bit of year3 students answered the survey

Bias by major and place were eliminated by sending an online survey on a WhatsApp group that included all EUI students

Overall, the questions were general, so the bias that leaked to them was by place. Otherwise, the questions are not controversial and easy to answer by a little self-observation.

Bias by place could be eliminated by tightening the population to include the students of EUI (the university of interest)

# Survey Questions:

What is your gender?

What is your major?

What year are you in?

What is your CGPA?

What is your daily budget (How much do you spend)?

Online survey link: [click here](https://docs.google.com/forms/d/e/1FAIpQLSe-Vg3oi6Q3_9c9f4fEQKQ6LnbbqLMedccHzxnesa3oreJoCA/viewform?usp=sf_link)

Number of samples collected: 33

# Analysis:

Students’ CGPA:

Mean= =2.910

Mode=most frequent x=0, 2.4(bimodal)

Median= =2.7

Students’ daily budget:

Mean= =81.121

Mode= most frequent x=0,50(bimodal)

Median= =60

Pearson correlation (students’ daily budget, students’ CGPA) [x, y]

= =-0.215(negative weak)

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| Dot plot Showing Students' daily budget against their CGPA. The dot plot shows students have had a slightly decreased daily budget with most students scoring 3.5 and above. This shows that the daily budget might have a negative impact on student CGPA. |

# Conclusion

It is shown that students’ daily budget has a weak negative correlation to CGPA.

# Any potential issues

Data is showing outliers and confounding variables such as hours of studying. There is a bias of place because the data collected was from a single university.